

## ABSTRACT

2 Cigarettes are manufactured using modified automated cigarette making apparatus.  
3 Those cigarettes possess smokable rods having paper wrapping materials having additive  
4 materials applied thereto as patterns. The additive material can be applied as a coating  
5 formulation in an off-line manner to a continuous paper sheet web that is later used for cigarette  
6 manufacture. The additive material can be applied as a coating formulation in an on-line manner  
7 to continuous paper web moving through an operating cigarette making machine. The coating  
8 formulation is applied to the paper web using roll applicator techniques, ink jet printing  
9 techniques or electrostatic precipitation techniques. Liquid coating formulation are curable, and  
10 are virtually absent of solvent or liquid carrier. Radiation, such as ultraviolet or electron beam  
11 radiation, is used to solidify and fix polymerizable liquid components of the coating formulation  
12 that have been applied to the paper web. Heating and subsequent cooling of the coating  
13 formulation used to fix solid components of the coating formulation that have been applied to the  
14 paper web. Registration techniques are used to ensure proper positioning of the additive material  
15 on the smokable rods so manufactured, and to ensure proper quality of those cigarettes.

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